# The Natural Characteristics of Wood

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CROSS FIRE</strong></td>
<td>Occurs in all species. Stripes running across the grain of the wood usually found in quarter-sawn lumber.</td>
</tr>
<tr>
<td><strong>RAY FLECKS</strong></td>
<td>Occurs in all species. Lines running parallel to the grain of the wood. Usually found in quarter-sawn lumber.</td>
</tr>
<tr>
<td><strong>BARK POCKETS</strong></td>
<td>Occurs in all species. An opening between tree annual rings which contains bark.</td>
</tr>
<tr>
<td><strong>TIGER STRIPE</strong></td>
<td>Occurs in maple. A small area where the grain of the wood is twisted or swirled to form a small circular pattern that resembles a bird’s eye.</td>
</tr>
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<td><strong>BIRD PECK</strong></td>
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</tr>
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<td><strong>WORLD HOLES</strong></td>
<td>Occurs in all species. Small holes or tracks left by wood boring grubs or carpenter ants.</td>
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<td><strong>WORM TRACKS</strong></td>
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</tr>
<tr>
<td><strong>VINE MARKS</strong></td>
<td>Occurs in all species. Dark lines in the wood associated with a vine wrapped around the trunk of the tree.</td>
</tr>
<tr>
<td><strong>MINERAL STREAKS</strong></td>
<td>Occurs in all species. Olive or grayish markings caused by such environmental factors as trace elements in water or soil.</td>
</tr>
<tr>
<td><strong>BACTERIA STAIN</strong></td>
<td>Occurs in all species. Wood cells do not die immediately when a tree is harvested. Organisms, like bacteria, often feed on these cells prior to the kilning process.</td>
</tr>
<tr>
<td><strong>KNOTS</strong></td>
<td>Occurs in all species. A knot is a particular type of imperfection in a piece of wood which affect the technical properties of the wood; usually for the worse, but may be exploited for aesthetic purposes. In the tree, a knot is either the base of a side branch or a dormant bud.</td>
</tr>
</tbody>
</table>

## PRODUCT DISCLAIMER:

The wood used in Echelon Cabinetry is a product of nature and may include numerous color hues, grain patterns and other natural characteristics. Due to nature’s infinite variations, it is impossible to include every color or grain configuration. Color and grain patterns are the primary influencers of woods appearance. Other characteristics such as staves, butt’s, and insect damage can also have a visual effect and are possible within any given wood species. Each cabinet may contain color variations that are enhanced or hidden during the finishing process. Color variation within a wood species is caused by many factors including soil type, minerals, water levels, sunlight, temperature and genetic composition. Grain variation, like color variation, is caused by numerous factors including species, tree size, growth rate, climate changes, site conditions, genetics, and bird, insect, and fire damage. Natural wood beauty is just like us: each individual tree is a result of its growth and exudes its own beauty and characteristics.
The wood used in Echelon Cabinetry showcases the natural beauty that comes from the inherent characteristics of wood. Trees are affected by the climate, the soil they inhabit, and the elements of their environment. All of these factors combine to create the natural characteristics found in real wood:

- Grain pattern variation (open and wide-grained contrasting with tightly closed graining)
- Grain color variation (from even and consistent color to varied and quite dramatic)
- Unique markings (such as dark “mineral” streaks or light-colored sapwood)

These variations can occur from cabinet to cabinet and within the same door or drawer front; however, they are considered natural characteristics, not defects. Clear or natural wood finishes enable the natural beauty of grain and color to show through. Opaque finishes provide greater consistency by hiding the natural wood variations. Each individual cabinet may or may not show the natural characteristics described on the following pages.

### Cherry
- Moderately hard and strong with a fine to medium grain pattern.
- Long history of use in high-end furniture and cabinetry.
- Good bending properties.

**Usually pinkish brown in color, but can go to shades of off-white, green and even gray.** Sapwood is white to yellowish; heartwood is deep reddish brown.

### Maple
- Hard, heavy and strong with a close, uniform grain.
- Resistant to shock and abrasive wear.
- Dents are highly visible due to the lack of pronounced grain.

**Sapwood is creamy white to off-white and sometimes tinged reddish brown.** Heartwood can be tan or very light grayish brown. Sometimes streaked with darker mineral colors. There are varying degrees of wood color acceptable by door style, refer to Echelon’s Visual Quality Standards for details.

### Birch
- Subtle, contemporary and close-grained hardwood.
- Very heavy, hard and strong.
- Good bending properties and shock resistance.

**Colors go from cream to reddish brown.** Sapwood is white, heartwood is a light reddish-brown. There are varying degrees of wood color acceptable by door style, refer to Echelon’s Visual Quality Standards for details.

### Oak
- Hard, heavy and strong with a close, uniform grain.
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**Texture is fine and even with grain often being straight but can also come in wavy or curly patterns. Takes stains well.”**

**PHOTO CREDITS:**
- Upper Right Corner – MI Homes Bauer Place in Naperville
- Lower Left Corner – Napolitano Homes

**PHOTO CREDITS:**
- Birch Room Scene – Sean Dewitt Photography

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The Natural Characteristics of Wood

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BIRDS EYE
- Occurs in maple
- A small area where the grain of the wood is twisted or swirled to form a small circular pattern that resembles a bird’s eye.

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- Swirled grain that gives the appearance of stripes.

BIRD PECK
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- A patch of damaged grain results from birds pecking through the growing cells in the tree; sometimes contains a hole, ingrown bark, or soft rot usually surrounded by sound wood.

BACTERIA STAIN
- Occurs in all species
- Wood cells do not die immediately when a tree is harvested. Organisms, like bacteria, often feed on these cells prior to the kilning process.

MINERAL STREAKS
- Occurs mainly in maple
- Olive or grayish markings caused by such environmental factors as trace elements in water or soil.

VINE MARKS
- Occurs in birch
- Dark color streaks or irregular markings that emerge from a vine wrapped around the trunk of the tree.

GUM & SAP POCKETS
- Occurs in cherry
- Pitch pocket, gum streak, or gum spot gaps between the growth rings that have been filled with resin as the tree continues to grow.

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Color and grain patterns are the primary influencers of woods appearance. Other characteristics such as stains, burls, and insect damage can also have a visual effect and are possible within any given wood species. Each cabinet may contain color variations that are enhanced or hidden during the finishing process.

Color variation within a wood species is caused by many factors including soil type, minerals, water levels, sunlight, temperature and genetic composition. Grain variation, like color variation, is caused by numerous factors including species, tree size, growth rate, climate changes, site conditions, genetics, and bird, insect, and fire damage. Natural wood beauty is just like us: each individual tree is a result of its growth and exudes its own beauty and characteristics.

PHOTO CREDIT: Above Room Scene – K Hovnanian Homes Heatherfield subdivision in Naperville

Echelon Cabinetry – The Beauty of Wood

We’re all about the Beauty of Wood.

www.echeloncabinetry.com - An acpbrand

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Echelon Cabinetry is part of the Kitchen Cabinet Manufacturers Association (KCMA) and the National Kitchen and Bath Association (NKBA). Echelon Cabinetry carries the ANSI/KCMA A161.1 quality assurance certification.

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### Real Wood

Conveys a warm, inviting feeling the moment you see it. A rich, exotic elegance the second you touch it. Real wood adds value to your home with its luxurious texture, wondrous wood graining, and deep vivid tones and colors.

#### Echelon Cabinetry — The Beauty of Wood

**CHERRY**

- Moderately hard and strong with a fine to medium grain pattern.
- Long history of use in high-end furniture and cabinetry.
- Good bending properties.

Usually pinkish brown in color, but can go to shades of off-white, green and even gray. Sapwood is white to yellowish; heartwood is deep reddish brown.

#### MAPLE

- Hard, heavy, and strong with a close, uniform grain.
- Resistant to shock and abrasive wear.
- Dents are highly visible due to the lack of a pronounced grain.

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#### BIRCH

- Subtle, contemporary and close-grained hardwood.
- Very heavy, hard and strong.
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#### OAK

- Heavy grained and durable.
- Well suited for molding and millwork.
- Dents are less visible due to the pronounced grain pattern.
- May have mineral streaks and pin holes.

Medium weight with uniform smooth texture. Finishes to a silky luster. The sapwood is white to light brown; heartwood is pinkish-red brown.

Takes stains well. Open grain that produces dramatic and distinct patterns in sawn lumber. Saws without difficulty and planes easily to a smooth surface.

Texture is fine and even with grain often being straight but can also come in wavy or curly patterns. Takes stains well.

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- Light rays passing through the grain of the wood, usually found in quarter-sawn lumber.

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